

**Method and Apparatus for Using CRC for Data Integrity in On-Chip Memory**  
**Abstract of the Disclosure**

Cyclic-redundancy-code ("CRC") information that is received along with a  
5 frame from a fibre-channel is stored in an on-chip frame buffer, and later checked to  
ensure the integrity of the data while in the frame buffer. In various embodiments,  
data frames, along with their CRC information, are stored into a data-frame buffer,  
and/or non-data frames along with their CRC information are stored into a receive-  
non-data-frame buffer. The improved communications channel system includes a  
10 channel node having dual ports, each port supporting a fibre-channel arbitrated-loop  
serial communications channel. The serial communications channels each include  
CRC on data transmissions on the channel, an on-chip frame memory located on-  
chip in the channel node that receives a data frame and the frame's associated CRC  
from the communications channel, and an integrity apparatus that later uses the  
15 received associated CRC for data-integrity checking of data in the on-chip frame  
memory. In addition, a method for using CRC for data integrity in on-chip memory  
is described.

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